MALT EXTRACT BROTH

Dehydrated culture medium

1 - INTENDED USE

For the detection, isolation and enumeration of fungi in various materials and for cultivating yeast and mould stock cultures

2 – COMPOSITIONS

TYPICAL FORMULA (AFTER RECONSTITUTION WITH 1 L OF WATER) *

Malt extract	17 g
Mycological peptone	3 g

*The formula may be adjusted and/or supplemented to meet the required performances criteria.

3 - PRINCIPLE OF THE METHOD AND EXPLANATION OF THE PROCEDURE

Traditionally, acidified media based on malt extract have been used to enumerate yeasts and moulds in different commodities. Malt Extract Broth is used for the detection, isolation and enumeration of fungi in various materials and for cultivating yeast and mould stock cultures for microbiological assays and for biochemical and molecular studies.
Mycological peptone provides nitrogen, whereas malt extract is a source of carbon and nutrients for the growth of yeasts and moulds. The acidic pH restricts the bacterial growth. Selectivity may be enhanced by decreasing the pH with lactic acid or tartaric acid and by addition of antibiotics.

4 - DIRECTIONS FOR DEHYDRATED MEDIUM PREPARATION

Suspend 20 g in 1000 mL of cold purified water. Mix thoroughly and warm slightly if necessary to completely dissolve the powder. Distribute into final containers and sterilise by autoclaving at 115ºC for 15 minutes.

5 - PHYSICAL CHARACTERISTICS

Dehydrated medium appearance	beige, fine, homogeneous, free-flowing powder
Solution and prepared tubes appearance	pale yellow, clear
Final pH at 20-25 °C	5.4 ± 0.2

6 - MATERIALS PROVIDED - PACKAGING

Product	Type	REF	Pack
Malt Extract Broth	Dehydrated medium	4016602	500 g (25 L)

7 - MATERIALS REQUIRED BUT NOT PROVIDED

Autoclave, water-bath, sterile loops and pipettes, incubator and laboratory equipment as required, Erlenmeyer flasks, tubes, ancillary culture media and reagents.

8 – SPECIMENS

Foods, animal feeding stuffs and other samples; pure stock cultures. For sample collection, storage, transport and preparation, follow good laboratory practice and refer to applicable International Standards and regulations.

9 - TEST PROCEDURE

Inoculate each test strain or specimen onto tubes. Incubate at 22-25°C for 2-7 days.
The incubation conditions may vary according to the type of expected microorganisms and can be extended.
The user is responsible for choosing the appropriate incubation time, and temperature depending on the processed sample or inoculated strain, the requirements of organisms to be recovered or cultivated and the local applicable protocols.

10 - READING AND INTERPRETATION

After incubation, the presence of microbial growth is evidenced by the presence of turbidity compared to an un-inoculated control. The characteristic of the growth is closely related to the type or types of cultivated microorganisms.

11 - USER QUALITY CONTROL

All manufactured lots of the product are released for sale after the Quality Control has been performed to check the compliance with the specifications. However, the end user can perform its own Quality Control in accordance with the local applicable regulations, in compliance with accreditation requirements and the experience of the Laboratory. Here below are listed some test strains useful for the quality control.

CONTROL STRAINS	INCUBATION T°/ T - ATM	EXPECTED RESULTS
Saccharomyces cerevisiae ATCC 9763	25°C/ 72h/A	good growth
Aspergillus brasiliensis ATCC 16404	25°C/ 72h/A	good growth

A: aerobic incubation; ATCC is a trademark of American Type Culture Collection

12 – PERFORMANCES CHARACTERISTICS

Prior to release for sale, a representative sample of all lots of dehydrated Malt Extract Broth is tested for productivity and selectivity by comparing the results with a Reference Batch.
Productivity is tested by dilution to extinction method with the target strains *S. cerevisiae* ATCC 9763, *C. albicans* ATCC 18804, *P. chrysogenum* ATCC 10106, *A. brasiliensis* ATCC 9642. The tubes are inoculated with decimal dilutions in saline of a colonies' suspension and incubated at 25 °C for 72 hours in air. Target strains exhibit good growth.
The selectivity is evaluated by dilution to extinction method by inoculating the tubes with suitable decimal dilutions in saline of a 0.5 McFarland suspension of *E. coli* ATCC 25922. The growth of the non-target strain is partially inhibited.

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13 – LIMITATIONS OF THE METHOD

- Since Malt Extract Broth is a general-purpose medium with poor selective properties, bacterial strains will also grow.

14 - PRECAUTIONS AND WARNINGS

- This product is for microbiological control and for professional use only; it is to be used by adequately trained and qualified laboratory personnel, observing approved biohazard precautions and aseptic techniques.
- Dehydrated media must be handled with suitable protection. Before use, consult the Safety Data Sheet.
- This culture medium contains raw materials of animal origin. The *ante* and *post mortem* controls of the animals and those during the production and distribution cycle of the raw materials, cannot completely guarantee that this product doesn't contain any transmissible pathogen. Therefore, it is recommended that the culture medium be treated as potentially infectious, and handled observing the usual specific precautions: do not ingest, inhale, or allow to come into contact with skin, eyes, mucous membranes. Download the TSE Statement from the website www.biolifeitaliana.it, describing the measures implemented by Biolife Italiana for the risk reduction linked to infectious animal diseases.
- Apply Good Manufacturing Practice in the production process of prepared media.
- All laboratory specimens should be considered infectious.
- The laboratory area must be controlled to avoid contaminants such as culture medium or microbial agents.
- Sterilize all biohazard waste before disposal. Dispose the unused medium and the sterilized medium inoculated with samples or microbial strains in accordance with current local legislation.
- Do not use the culture medium as active ingredient for pharmaceutical preparations or as production material intended for human and animal consumption
- The Certificates of Analysis and the Safety Data Sheet of the product are available on the website www.biolifeitaliana.it.
- The information provided in this document has been defined to the best of our knowledge and ability and represents a guideline for the proper use of the product but without obligation or liability. In all cases existing local laws, regulations and standard procedures must be observed for the examination of samples collected from human and animal organic districts, for environmental samples and for products intended for human or animal consumption. Our information does not relieve our customers from their responsibility for checking the suitability of our product for the intended purpose.

15 - STORAGE CONDITIONS AND SHELF LIFE

Upon receipt, store at +10°C /+30°C away from direct light in a dry place. If properly stored, it may be used up to the expiration date. Do not use beyond this date. Avoid opening the bottle in humid places. After use, the container must be tightly closed. Discard the product if the container and/or the cap are damaged, or if the container is not well closed, or in case of evident deterioration of the powder (colour changes, hardening, large lumps).
The user is responsible for the manufacturing and quality control processes of prepared media and the validation of their shelf life, according to the type and the applied storage conditions (temperature and packaging). According to MacFaddin, the tubed medium prepared by the user can be stored at +2°C/+8°C for 6 months.[1]

REFERENCES

1. MacFaddin JF. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria. Baltimore: Williams & Wilkins; 1985.

TABLE OF APPLICABLE SYMBOLS

REF or REF Catalogue number	LOT Batch code	Manufacturer	Store in a dry place	Use by
Temperature limitation	Contents sufficient for <n> tests	Consult Instructions for Use	Keep away from direct light	

REVISION HISTORY

Version	Description of changes	Date
Revision 1	Updated layout and content	2022/10

Note: minor typographical, grammatical, and formatting changes are not included in the revision history.

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