DEXTROSE BROTH

Dehydrated culture medium

1 - INTENDED USE

For cultivating a wide variety of microorganisms and for detection of gas production from glucose fermentation.

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

Beef extract	3 g
Tryptose	10 g
Glucose	5 g
Sodium chloride	5 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

Dextrose Broth is a modification of Dextrose Agar proposed by Norton[1] in 1932, prepared without agar and with a reduced concentration of glucose. Dextrose Broth is a high nutritious liquid medium that allows the production of early, abundant organism growth even with a small inoculum. It may be used also for detecting gas formation from enteric bacilli through dextrose fermentation.
The addition of 0.1-0.2% agar to the Dextrose Broth promotes anaerobic growth and dispersion of the reducing substances and CO_2 formed in the environment. The low concentration of agar is suitable for aerobic growth in the upper clear zone, and microaerobic and anaerobic growth in the lower, flocculating agar zones.
Tryptose and beef extract provide nitrogen, carbon, minerals and amino acids for the microbial growth. Sodium chloride maintains the osmotic balance. Glucose is a source of carbon and energy.

4- DIRECTIONS FOR MEDIUM PREPARATION

Suspend 23 g in 1000 mL of cold purified water. Heat to dissolve with frequent agitation, distribute into suitable containers and sterilise by autoclaving at 121°C for 15 minutes.

5 - PHYSICAL CHARACTERISTICS

Dehydrated medium appearance	beige, fine, homogeneous, free-flowing powder
Solution and prepared plates appearance	yellow, clear
Final pH at 20-25 °C	7.2 ± 0.2

6 - MATERIALS PROVIDED - PACKAGING

Product	Type	REF	Pack
Dextrose Broth	Dehydrated medium	4013862	500 g (21.7 L)

7 - MATERIALS REQUIRED BUT NOT PROVIDED

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

8 - SPECIMENS

For sample collection, storage, transport and preparation, follow good laboratory practice and refer to applicable International Standards and regulations.

9 - TEST PROCEDURE

The user is responsible for choosing the appropriate incubation time, temperature and atmosphere depending on the processed specimen, the requirements of organisms to be recovered and the local applicable protocols.
For the detection of gas production from glucose fermentation by enteric bacilli, inoculate the fermentation tubes and incubate at 35-37°C for 18-24 hours.

10-READING AND INTERPRETATION

The presence of microorganisms is indicated by the appearance of a turbidly. Gas formation can be observed as bubbles production accumulated into Durham tubes.

10 - 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
S. aureus ATCC 25923	35-37°C / 18-24h / A	growth
E. coli ATCC 25922	35-37°C / 18-24h / A	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 Dextrose Broth is tested for productivity by comparing the results with a previously approved Reference Batch (RB).
Productivity is tested by dilution to extinction method, by inoculating 1 mL of appropriate decimal dilutions of organisms in test tubes and recording the highest dilution showing growth in Reference Batch (Gr_{RB}) and in Test Batch (Gr_{TB}). Productivity is tested with the following strains: *S. aureus* ATCC 25923, *E. faecalis* ATCC 19433, *S. marcescens* ATCC 8100, *M.luteus* ATCC 9341, *C.albicans* ATCC 18804,

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A.brasiliensis ATCC 9642. After incubation at 37°C for 24 hours or at 25°C for 72 hours the tested strains exhibit good growth and the productivity index Gr_{RB}-Gr_{TB} for each test strain is ≤ 1.

13 - LIMITATIONS OF THE METHOD

- Biochemical, immunological, molecular, or mass spectrometry testing should be performed on isolates, from pure culture, for complete identification.

14 - PRECAUTIONS AND WARNINGS

- This product is for Laboratory use 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 plates 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 for the validation of the shelf life of the finished products, according to the type (tubes/bottles), and the storage method (temperature and packaging).

16 - REFERENCES

1. Norton. 1932. J. Lab. Clin. Med. 17:558.

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	2022/07

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

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