

Elliker Broth (Lactobacilli Broth)

Intended Use:

For cultivating Streptococci and Lactobacilli of importance in dairy industry.

Composition**

Ingredients	g / L
Tryptone	20.000
Yeast extract	5.000
Gelatin	2.500
Dextrose (Glucose)	5.000
Lactose	5.000
Saccharose (Sucrose)	5.000
Sodium chloride	4.000
Sodium acetate	1.500
Ascorbic acid	0.500
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 48.5 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Lactic acid bacteria found in dairy products are a diverse group consisting primarily of *Streptococcus, Lactococcus, Leuconostoc* and homofermentative and heterofermentative *Lactobacillus species*. Testing for lactic acid bacteria in dairy products may be useful for determining the cause of acid defects in products and evaluating lactic starter cultures and thus controlling the quality of curds, cheese, cultured milks etc. Elliker Broth, recommended by APHA, is used for culturing Streptococci and lactobacilli in the dairy industry (1). Elliker, Anderson and Hannesson developed Elliker Broth (2), which was further modified by McLaughlin (3).

Tryptone and gelatin provide nitrogen to the organisms. Yeast extract serves as the source of vitamin. Dextrose, lactose and saccharose are the fermentable carbohydrates and hence the sources of energy. Sodium chloride maintains the osmotic equilibrium of the medium. With the addition of ascorbic acid, the medium becomes slightly acidic which supports the growth of lactobacilli. Sodium acetate has an inhibitory effect on gram-negative bacteria and moulds, without affecting the growth of lactobacilli.

Type of specimen

Dairy samples- milk and milk products; Clinical samples- oral mucosal lesions, saliva

Specimen Collection and Handling:

For clinical samples, follow appropriate techniques for sample collection and processing as per guidelines (4,5). For dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro Diagnostic use. 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 specimens. Safety guidelines may be referred in individual safety data sheets.

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Limitation

1. Further biochemical and serological test s must be carried out out for complete identification

2. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.

3.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.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder Colour and Clarity of prepared medium Light amber coloured, clear solution without any precipitate Reaction Reaction of 4.85% w/v aqueous solution at 25°C. pH : 6.8±0.2 pН 6.60-7.00 **Cultural Response** Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours Organism Inoculum Growth (CFU) 50-100 Lactobacillus casei ATCC luxuriant 7469 (00101*) Lactococcus lactis ATCC 50-100 luxuriant 19435 (00016*) Lactobacillus plantarum 50-100 luxuriant

ATCC 8014Streptococcus cremoris50-100ATCC 19257at 30-32°C)Streptococcus thermophilus50-100ATCC 14485good-luxuriant

Key : (*) Corresponding WDCM numbers.

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.Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

2. Elliker P. R., Anderson A. W. and Hannesson G., 1956, J. Dairy Sci., 39:1611.

3.McLaughlin, 1946, J. Bacteriol., 51:560.

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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Disclaimer :

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