

# **Technical Data**

# **Lactic Phage Broth**

**M968** 

# Intended Use:

Recommended for enumeration of bacteriophages active against starter cultures employed in cheese manufacturing. **Composition**\*\*

Ingredients	Gms / Litre
Tryptone	10.000
Yeast extract	5.000
HM peptone B #	5.000
Lactose	10.000
Dipotassium hydrogen phosphate	5.000
Final pH ( at 25°C)	6.8±0.2
**Formula adjusted, standardized to suit performance parameters	
# Equivalent to Beef extract	

# Directions

Suspend 35.0 grams in 1000 ml purified/distilled water. Heat if necessary to dissolve the medium completely. Mix well and dispense in tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

# **Principle And Interpretation**

Lactic streptococci are of critical importance to the dairy fermentation industry because these bacteria supply the lactic acid for the curd production and their metabolic products impart characteristic and desirable flavors. Bacteriophages play a vital role as they infect the starter cultures resulting in insufficient acid production (2). This medium is recommended for the bacteriophage detection.

Tryptone and HM peptone B provides all the essential nutrients especially nitrogenous sources for the organisms. Dipotassium phosphate is the buffering agent and lactose is the carbon source in the medium.

## Type of specimen

Dairy samples

## **Specimen Collection and Handling**

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

#### Warning and Precautions :

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.

## **Limitations :**

1. The maintenance of pH is very important as lower pH results in injury and reduced recovery of lactic Streptococci.

## **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 coloured homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Light amber coloured clear to slightly opalescent gel forms in Petri plates.

#### Reaction

Reaction of 3.5% w/v aqueous solution at 25°C. pH : 6.8±0.2

#### 6.60-7.00

#### Cultural Response

Cultural characteristics observed after an incubation at 30°C for 18.

Organism	Growth
Leuconostoc dextranicum	good-luxuriant
Streptococcus cremoris	good-luxuriant
ATCC 19257	
Lactobacillus lactis ATCC	luxuriant
8000	
Streptococcus thermophilus	good-luxuriant
ATCC 14485	

## **Storage and Shelf Life**

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

#### Reference

1. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.

2. Elliker, P.R. 1950. The problem of bacteriophage in the dairy industry. p.24-29. Proc. 11th Annu. Biol. Colloq., Oregon State Univ.

3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

4. 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.

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

Revision: 03/2021

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