

M17 Agar

Intended Use

M17 Agar is used for cultivation of lactic Streptococci and plaque assay of lactic bacteriophages.

Summary

M17 media are based on the formulation described by Terzaghi and Sandine for the cultivation and enumeration of lactic Streptococci and their bacteriophages. It is possible to study plaque morphology and lysogeny. M17 Agar is recommended by the International Dairy Federation for selective enumeration of *Streptococcus thermophilus* from yoghurt. M17 Agar is recommended by APHA for the cultivation of lactic Streptococci. Lactic Streptococci are nutritionally fastidious and require complex media for optimal growth. Disodium glycerophosphate maintains the pH above 5.7. The maintenance of pH is very important as lower pH results in injury and reduced recovery of lactic Streptococci. Glycerophosphate does not form precipitate with calcium which is needed for the plaque assay of lactic bacteriophages.

Principle

Peptic digest of animal tissue, papaic digest of soyabean meal, yeast extract, beef extract provides carbonaceous, nitrogenous compounds, vitamin B complex and other essential growth factors. Lactose is the fermentable carbohydrate and ascorbic acid is stimulatory for the growth of lactic Streptococci. Magnesium sulphate provides essential ions to the organisms. Disodium- β -glycerophosphate maintains the pH above 5.7. The maintenance of pH is very important as lower pH results in injury and reduced recovery of lactic Streptococci. Disodium glycerophosphate suppresses *Lactobacillus bulgaricus*.

Formula*

Ingredients	g/L
Peptic Digest of Animal Tissue	5.0
Papaic Digest of Soyabean Meal	5.0
Beef Extract	5.0
Yeast Extract	2.5
Ascorbic Acid	0.5
Magnesium Sulphate	0.25
Lactose	5.0
Agar	10.0
Final pH (at 25°C)	7.1 \pm 0.2

*Adjusted to suit performance parameters

Storage and Stability

Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen

Food and Dairy samples

Specimen Collection and Handling

Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 33.25 g of the powder in 1000 mL purified / distilled water.
2. Add 19.00 g of disodium β -glycerophosphate.
3. Heat to boiling to dissolve the powder completely.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
5. Mix well and dispense as desired.

Quality Control

Dehydrated Appearance: Cream to yellow coloured, homogenous, free flowing powder.

Prepared Appearance: Light yellow coloured, clear to slightly opalescent gel forms in petridishes.

Cultural Response: Cultural characteristics observed after an incubation at 35°C-37°C for 24-48 hours with added Disodium β -Glycerophosphate.

Organism (ATCC)

Enterococcus faecalis (29212)

Lactobacillus bulgaricus (11842)

Lactobacillus leichmannii (4797)

Lactobacillus plantarum (8014)

Streptococcus thermophilus (14485)

Growth

Good

Partial Inhibition

Good

Good

Good

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Terzaghi B.E. and Sandine W.E., 1975, Appl. Microbiol., 29:807.
2. Anderson A.W. and Elliker P.R., 1953, J. Dairy Sci., 36:161.
3. Reiter B. and Oran J.D., 1962, J. Dairy Res., 29:63.
4. Shankar P.A. and Davies F.L., 1977, Soc. Dairy Technol., 30:28.
5. International Dairy Federation, 1981, Joint IDF/ISO/AOAC Group E44.
6. Downes F. P. and Ito K. (Eds.), 2001, Compendium of Methods for Microbiological of Food, 4th Ed., APHA, Washington, D.C.
7. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201130010500	Dehydrated Culture Media	500 g

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.
