

TM 185 - M17 BROTH

INTENDED USE

For cultivation and isolation of lactic Streptococci and their bacteriophages.

PRODUCT SUMMARY AND EXPLANATION

M17 broth is based on the formulation described by Terzaghi and Sandine for the cultivation and enumeration of lactic Streptococci and their bacteriophages. M17 Broth is a modification of M16 Medium. 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 the 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.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	2.500
Tryptone	2.500
Soya peptone	5.000
Yeast extract	2.500
Beef Extract	5.000
Lactose	5.000
Ascorbic acid	0.500
Disodium - β - glycerophosphate	19.000
Magnesium sulphate	0.250

PRINCIPLE

Peptone, soya peptone, tryptone, yeast extract and Beef Extract provide carbonaceous, nitrogenous compounds, long chain amino acids, 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. The maintenance of pH is very important as lower pH results in injury and reduced recovery of lactic Streptococci. Shankar and Davies reported isolation and enumeration of *Streptococcus thermophilus* from yoghurt. Disodium glycerophosphate suppresses *Lactobacillus bulgaricus*.

INSTRUCTION FOR USE

- Dissolve 42.25 grams in 1000 ml purified/distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense into tubes or flasks or as desired. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder
Appearance of prepared medium : Light yellow coloured clear to slightly opalescent solution in tubes
pH (at 25°C) : 7.1±0.1

INTERPRETATION

Cultural characteristics observed after an incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
<i>Enterococcus faecalis</i>	29212	50-100	good-luxuriant	35-37°C	24-48 Hours
<i>Lactobacillus delbrueckii</i> subsp. <i>bulgaricus</i>	11842	50-100	none-poor	35-37°C	24-48 Hours
<i>Lactobacillus leichmannii</i>	4797	50-100	good-luxuriant	35-37°C	24-48 Hours
<i>Lactobacillus plantarum</i>	8014	50-100	good-luxuriant	35-37°C	24-48 Hours
<i>Streptococcus thermophilus</i>	14485	50-100	good-luxuriant	35-37°C	24-48 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 10-25°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Anderson A.W. and Elliker P.R., 1953, J. Dairy Sci., 36:161.
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3. 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.
4. Lawrie and Pearee, 1971, J. Dairy Sci. Technol., 6:166.
5. Reiter B. and Oran J.D., 1962, J. Dairy Res., 29:63.
6. Shankar P.A. and Davies F.L., 1977, Soc. Dairy Technol., 30:28.
7. Terzaghi B.E. and Sandine W.E., 1975, Appl. Microbiol., 29:807.
8. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.



 GMP Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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