

Liver Meat Agar**M1001**

Liver Meat Agar is recommended for the cultivation of fastidious anaerobic organisms.

Composition***

Ingredients	Gms / Litre
Meat liver base	20.000
Dextrose	0.750
Starch	0.750
Sodium sulphite	1.200
Ferric ammonium citrate	0.500
Agar	11.000
Final pH (at 25°C)	7.6±0.2

***Formula adjusted, standardized to suit performance parameters

Directions

Suspend 34.2 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Medium can be used in tubes or plates as desired.

Principle And Interpretation

Anaerobic bacteria live in an oxygen-free environment. Some anaerobic bacteria actually die if oxygen is present, while others fail to grow and multiply (1).

Meat liver base provides adequate degree of anaerobiosis and is also rich source of growth nutrients, which enables even the strict and fastidious anaerobes to grow well.

This medium can be used in Petri dishes or in tubes. Pour plate technique permits the growth of anaerobes due to the reduced conditions generated. While using spread plate technique incubation in an anaerobic environment or sealing with anaerobic agar is required.

The media contains liver meat, which is a rich source of vitamins, the haem group and other nutrients that support the growth of strict and nutritionally fastidious anaerobes. Besides, it also provides sufficient degree of anaerobiosis in the medium. Dextrose provides source of energy.

Some anaerobes (e.g. certain *Clostridium* species) reduce the sulphite present in the medium to hydrogen sulphide (H₂S), which is indicated by the blackening of colonies due to presence of ferric ammonium citrate. Inoculation can be performed by the pour plate method or spread plate method.

Quality Control**Appearance**

Light yellow to light brown homogeneous free flowing powder

Gelling

Firm, comparable with 1.1% Agar gel

Colour and Clarity of prepared medium

Brown coloured opalescent gel with suspended particles forms in Petri plates.

Reaction

Reaction of 3.42% w/v aqueous solution at 25°C. pH : 7.6±0.2

Cultural Response

M1001: Cultural characteristics observed under anaerobic condition, after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	H ₂ S		
<i>Clostridium perfringens</i> ATCC 12924	50-100	luxuriant	≥50%	positive		
<i>Clostridium tetani</i> ATCC 10779	50-100	luxuriant	≥50%	positive		
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	≥50%	negative		
<i>Proteus mirabilis</i> ATCC 25933	50-100	luxuriant	≥50%	negative or weakly positive		

<i>Clostridium botulinum</i> ATCC 25763	50-100	luxuriant	>=50%	positive		
<i>Bacteroides vulgatus</i> ATCC 8482	50-100	good- luxuriant	>=50%	negative		

Reference

1. Alcamo E. I. 2001, Fundamentals of Microbiology, 6th Ed., Jones and Bartlett Publishers

Storage and Shelf Life

Store below 30°C and prepared medium at 2-8°C. Use before expiry period on the label.