



## Anaerobic Agar (Brewer)

M491

Anaerobic Agar (Brewer) is recommended for the isolation and sensitivity testing of anaerobic and microaerophilic organisms and study of colonial morphology.

### Composition\*\*

Ingredients	Gms / Litre
Proteose peptone	10.000
Casein enzymic hydrolysate	5.000
Yeast extract	5.000
Dextrose	10.000
Sodium chloride	5.000
Sodium thioglycollate	2.000
Sodium formaldehyde sulphonylate	1.000
Resazurin	0.002
Agar	15.000
Final pH ( at 25°C)	7.2±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 53 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. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

### Principle And Interpretation

Brewer (1) devised this medium for use with Brewer anaerobic cover to permit surface growth of anaerobes and microaerophiles on agar without the use of anaerobic jar. This medium is suitable for isolation of facultative and obligate anaerobes and for the study of colonial morphology as colonies can be readily seen on the light coloured agar and are easily accessible (2,3).

Dispense 50-60 ml medium per 95 x 20 mm plate. For best results, use porous tops for the plates during solidification to obtain a dry surface. Inoculation can be done by streaking or smearing. After inoculation of the medium, cover with Brewer Anaerobic Petri dish cover. The sealing ring inside the cover should make a perfect contact with the medium and must not be broken before the end of the incubation period. When standard plates are used, dispense 0.1 to 1.0 ml of inoculum into plates and mix 20-25 ml of sterile medium.

Proteose peptone, casein enzymic hydrolysate, yeast extract provides nitrogen, vitamin and amino acids. Dextrose is a carbohydrate source. This medium contains sodium thioglycollate and sodium formaldehyde sulphoxylate that provide adequate anaerobiosis, which is indicated by resazurin present in the medium. Resazurin imparts pink colour to the medium in presence of oxygen.

### Quality Control

#### Appearance

Cream to yellow homogeneous free flowing powder

#### Gelling

Firm, comparable with 1.5% Agar gel

#### Colour and Clarity of prepared medium

Light amber coloured clear to slightly opalescent gel forms in Petri plates that becomes red due to aeration on standing.

#### Reaction

Reaction of 5.3% w/v aqueous solution at 25°C. pH : 7.2±0.2

#### pH

7.00-7.40

#### Cultural Response

M491: Cultural characteristics observed under anaerobic condition, after an incubation at 35-37°C for 18-48 hours.

<b>Organism</b>	<b>Inoculum (CFU)</b>	<b>Growth</b>	<b>Recovery</b>
<i>Clostridium botulinum</i> ATCC 19397	50-100	luxuriant	>=50%
<i>Clostridium perfringens</i> ATCC 12924	50-100	luxuriant	>=50%
<i>Clostridium sporogenes</i> ATCC 11437	50-100	luxuriant	>=50%

### Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

### Reference

1. Brewer, 1942, Science, 95, 587.
2. Isenberg (Ed.), 1992, Clinical Microbiology Procedures Handbook, American Society for Microbiology, Washington, D.C.
3. Baron E. J., Peterson and Finegold S. M., Bailey & Scotts Diagnostic Microbiology, 9th Ed., 1994, Mosby-Year Book, Inc., St. Louis, Mo.

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