Anaerobic Basal Agar

M1635

Intended Use:

Recommended for the growth of anaerobic microorganisms, particularly *Bacteroides* species and other fastidious anaerobes.

Composition**

Ingredients	g/ L
Peptone	16.000
Yeast extract	7.000
Sodium chloride	5.000
Starch	1.000
Dextrose (Glucose)	1.000
Sodium pyruvate	1.000
Arginine	1.000
Sodium succinate	0.500
Sodium bicarbonate	0.400
L-Cysteine hydrochloride	0.250
Ferric pyrophosphate	0.500
Hemin	0.005
Vitamin K	0.0005
DL Dithiothreitol (DTT)	0.250
Agar	12.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 45.9 grams in 1000 ml purified/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 and aseptically add 5-10% sterile defibrinated horse blood. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Bacteroides comprise a major portion of the human normal flora, predominating in the intestinal tract. These organisms are, like other anaerobes, generally opportunistic and can cause a variety of infections throughout the body. The most common infections include pleuropulmonary, intra-abdominal and infections of the female urogenital tract. *Bacteroides* make up about one-third of the total anaerobic isolates obtained from various infections. Anaerobic Basal media are very nutritious and hence recommended for fastidious anaerobes like *Bacteroides* species. Anaerobic organisms require reducing conditions and an absence of dissolved oxygen in the medium. Strict anaerobes obtain its energy and intermediates through oxidation utilizing hydrogen acceptors other than oxygen. Anaerobes are unable to grow if the medium contains dissolved oxygen. Pre-reducing the medium by boiling to drive off the oxygen can expel this. Also reducing agents such as thioglycollate or cysteine can be added to the medium (1).

Peptone and yeast extract provide nitrogen and carbon source, long chain amino acids, vitamins and other essential growth nutrients. Starch absorbs the toxic metabolites produced (2). Hemin and Vitamin K serves as essential growth factors for *Bacteroides* species (3). Sodium succinate helps to improve the growth of *Bacteroides* species (4). Sodium pyruvate serves as the energy source. It also mimics the role of catalase and degrades traces of hydrogen peroxide, which may be produced by the action of molecular oxygen on media components (5). Arginine and L-cysteine helps to revive and enhance the growth of certain anaerobes (6,7). It along with dithiothreitol also serves as reducing agent. Anaerobic basal agar can be made selective for gram-negative anaerobes by the addition of Non- spore Anaerobic Supplement (FD001) and G.N. Spore Anaerobic Supplement (FD002). The media can also be made selective for non- sporing anaerobes by the addition of Non-spore Anaerobic Supplement (FD001). Anaerobic Basal Agar can be inoculated directly by surface streaking.

Type of specimen

Clinical samples - Throat swab, sputum, faeces

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (8,9).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic use only. For professional use only. 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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. It is necessary to incubate inoculated media for a full 48 hours before examination and exposure of the inoculated culture to ambient air.

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 homogeneous free flowing powder

Gelling

Firm, comparable with 1.2% Agar gel

Colour and Clarity of prepared medium

Basal medium:Light amber clear to slightly opalescent gel. After addition of 5% v/v sterile defibrinated blood: Cherry red coloured opaque gel forms in Petri plates.

Reaction

Reaction of 4.6% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH

6.80-7.20

Cultural Response

Cultural characteristics observed with added 5% w/v sterile defibrinated blood, after an incubation at 35-37°C for 18-48 hours anaerobically.

Organism	Growth
Peptostreptococcus anaerobius ATCC 27337	luxuriant
Prevotella loescheii ATCC 15930	luxuriant
Clostridium perfringens ATCC 13124 (00007*)	luxuriant
$*Phocaeicola vulgatus* ATCC 8482	luxuriant
Bacteroides fragilis ATCC 23745	luxuriant

Key : (*) Corresponding WDCM numbers. $ Formerly known as *Bacteroides vulgatus*

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (8,9).

Reference

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IVD ***In vitro* diagnostic medical device**

30°C
10°C **Storage temperature**

CE **CE Marking**

Do not use if package is damaged